



File Code: 2210

Date: December 3, 2013

Route To:

Subject: Ecological Site Description Memo

To: File

1.1.0 Background

This memorandum will serve as the official notice to shift from Dakota Prairie Grasslands Plan (USDA Forest Service 2001) direction with objectives of Seral Stage percentages across the landscape by Geographic Area to relying on state-and-transition models described in Ecological Site Descriptions (ESDs) for vegetative composition objectives across the Dakota Prairie Grasslands.

1.1.1 Ecological Site Descriptions

An ecological site is defined as a distinctive kind of land with specific physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation. ESDs provide information to assess condition of current resources, assess management opportunities and predict the outcome of management decisions (USDA Natural Resources Conservation Service 2008).

The following information is found in an ecological site description:

- Site Characteristics—identifies the site and describes the physiographic, climate, soil, and water features associated with the site.
- Plant Communities—describes the ecological dynamics and common plant communities comprising the various vegetative states. The disturbances that cause a shift from one state to another are described.
- Site Interpretations—interprets information pertinent to the use and management of the site.
- Supporting Information—provides sources of information and data utilized in developing the site description and the relationship of the site to other sites. Ecological dynamics summarize the changes to vegetation and soils, and the causes of those changes, which can occur on an ecological site.

1.1.2 State-and-Transition Models

A state-and-transition model is used to describe the dynamics of vegetation and management interactions associated with each ecological site. It identifies the different vegetation states that may exist on a site, describes the disturbances that cause vegetation change, and describes the restoration activities needed to restore plant communities (USDA Natural Resources Conservation Service 2008). State-and-transition models communicate plant succession and functional and structural change as a response to disturbance and management actions. Community phases represent unique assemblages of plants within individual states that are influenced by natural and anthropogenic drivers.

Using ESDs is helpful in meeting the intent of the Grasslands Plan. The information in the ESDs including the state-and-transition diagrams will help with identifying where the plant community phases are in meeting desired conditions and what actions may be required to move towards desired condition.




1.1.3 Direction

In 2005, a Memorandum of Understanding (MOU) between Bureau of Land Management, Forest Service, and Natural Resources Conservation Service (NRCS) was entered into to develop a standardized method to define, delineate, and describe terrestrial ecological sites. In accordance with the MOU, a Federal Interagency Team was to cooperatively develop an ecological site manual to document this standardized method.

The *Rangeland Interagency Ecological Site Manual* (USDI Bureau of Land Management, USDA Forest Service, USDA Natural Resource Conservation Service 2010) provides direction to move towards using ecological sites descriptions. In January 2013, the *Interagency Ecological Site Handbook for Rangelands* (USDI Bureau of Land Management, USDA Forest Service, USDA Natural Resource Conservation Service 2013) was released. This interagency handbook was developed to implement the policy outlined in the *Rangeland Interagency Ecological Site Manual* (USDI Bureau of Land Management, USDA Forest Service, USDA Natural Resource Conservation Service 2010). This policy provides direction to the Bureau of Land Management, Forest Service, and NRCS to cooperatively identify and describe rangeland ecological sites for use in inventory, monitoring, evaluation and management of the Nation's rangelands. This policy is a response, in part, to direction from Congress in The Department of the Interior and Related Agencies Appropriations Act of 2002. In that Appropriations Act, Congress expected the Secretary of Agriculture and the Secretary of the Interior to prepare a coordinated plan and budget that would identify the cost of completing standardized soil surveys and ecological classification on all rangeland for use at local management levels. This interagency handbook promulgates ecological sites as the components of ecological classification at local management levels (USDI Bureau of Land Management, USDA Forest Service, USDA Natural Resource Conservation Service 2013, p. 6).

The *DPG Final Response to Scientific Review Team Reports October 10, 2006* (USDA Forest Service 2006a) recommends that soil maps and associated ecological site information be used in the development, implementation, monitoring, and refinement of allotment level management plans. The Forest Service noted in their response to utilize the best available data (regardless of whether it is based on habitat types or ecological sites) as a starting point to actual on-the ground data collection and interpretation. It noted that national, interagency efforts were underway to standardize vegetation monitoring. The Forest Service Dakota Prairie Grasslands agreed to adopt those protocols when available (USDA Forest Service 2006a, pp. 3-4). ESDs are maintained on the NRCS Ecological Site Information System (ESIS) (<https://esis.sc.egov.usda.gov>) under "Approved ESD Reports", which is the repository for information associated with ESDs. This memo formally completes the transition to Ecological Site Descriptions/State and Transition Models as outlined in the 2006 Livestock Grazing Record of Decision.



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